North American Numbering Council

LNPA Technical & Operational Requirements Task Force Report

April 25, 1997

NORTH AMERICAN NUMBERING COUNCIL
LNPA TECHNICAL & OPERATIONAL REQUIREMENTS TASK FORCE
REPORT

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Appendices

1. INTRODUCTION

1.1   The initial NANC LNPA Selection Working Group meeting occurred on November 8, 1996. At that meeting FCC representatives charged the LNPA Selection Working Group to fulfill the following responsibilities.

      A.   Determine the neutral third party or parties to act as the Local Number Portability Administrator(s) (LNPA)

      B.   Determine whether one or multiple LNPA(s) are selected

      C.   Determine the requirements for LNPA(s) selection

      D.   Define the duties of the LNPA(s)

      E.   Determine the geographic coverage of the regional databases

      F.   Develop technical standards, including interoperability operational standards, network interface standards and technical specifications

      G.   Develop guidelines and standards by which the North American Numbering Plan Administrator and the LNPA(s) share numbering information

1.2   At a subsequent LNPA Selection Working Group meeting the LNPA Architecture and LNPA Technical & Operational Requirements (T&O) Task Forces were formed to begin addressing these overall responsibilities. The LNPA T&O Task Force was directed to satisfy item F above, develop technical standards, network interface standards and technical specifications. This report describes the process the T&O Task Force used to satisfy this requirement.

1.3   The LNPA T&O Task Force interpreted this responsibility to include maintaining and updating these standards going forward and establishing a long term compliance process for Service Providers (SP) and Number Portability Administration Centers (NPACs).

2. MISSION STATEMENT

2.1 In support of the LNPA T&O Task Force responsibilities the following mission statement was developed:

> Develop initial and future NPAC SMS technical and operational requirements, identify pertinent industry standards, and recommend an oversight process to insure compliance.

3.   TASK FORCE COMPOSITION

3.1   The LNPA T&O Task Force membership consists of representatives from the following companies and regulatory bodies:

Company/Association	Name
Ameritech	Donna Navickas
AT&T	Bonnie J. Baca (Co-Chair)
Bellcore	John Malyar
BellSouth	Ron Steen
BellSouth Wireless	Karl Koster
California PUC	Natalie Billingsley
Cox	Karen Furbish
EDS	Michael Haga
GTE	Bob Angevine
IBM	J. Paul Golick
ILLUMINET/ITN	Robert M. Wienski
Interstate Fiber Net	Steven Brownworth
Lockheed Martin	Larry Vagnoni
Lucent Technologies	Doug Rollender
MCI	Steve Addicks
Nortel	Marcel Champagne
NYNEX	Kevin Cooke
OPASTCO	John McHugh
Pacific Bell	Sandra E. Cheung
Pac Bell Mobil Svc	Linda Melvin
Perot Systems	Tim McCleary
Pocket Com/CTA	Nina Blake
SBC	Marilyn Murdock (Co-Chair)
Sprint	Dave Garner
Telecom Software Enterprises	Lisa Marie Maxson
Teleport	Phil Presworskey
Time Warner/NCTA	Karen Kay
US West	Cynthia Gagnon
WinStar	Steve Merrill
WorldCom	Bettie Shelby

4.   WORKING ASSUMPTIONS

4.1   The LNPA T&O Task Force adopted the following working assumptions which govern the operation of the Task Force:

A.   Membership on the Task Force adequately represents the industry.

B.   Only issues that fall within the scope of the LNPA T&O Task Force Mission Statement are considered by the Task Force.

C.   Task force members elect co-chairs from the Incumbent Local Exchange Carrier (ILEC) and Competitive LEC (CLEC) segments of the industry to administer Task Force activities and to determine consensus when required.

D.   Decisions are adopted by consensus rather than by a simple majority with each entity receiving one (1) vote.

E.   Unresolved issues are escalated by the co-chairs to the LNPA Selection Working Group for possible escalation to NANC if required.

F.   The standards are adopted by the LNPA T&O Task Force for areas which do not fall under the jurisdiction of any other industry forum.

G.   The industry will comply with the standards developed by the LNPA T&O Task Force.

5.   STANDARDS RATIONALE

5.1   The LNPA T&O Task Force reviewed the activities in each of the seven (7) regions to evaluate the LNP planning activities currently underway. It was determined that certain documents were under development concurrently in each region. The regional LNP documents that had relevance to the Task Force mission included:

A.   Requirements Documents

Request for Proposals (RFPs) were developed in each region to invite neutral third party vendors to submit proposals to provide NPAC SMSs. The RFP in each region included, either as an attachment or by reference, the Functional Requirements Specification (FRS), which defines the functional requirements for the NPAC SMS and the Interoperable Interface Specification (IIS) which contains the information model for the NPAC SMS mechanized interfaces. Since these two (2) requirements documents were being discussed concurrently in all regions, the Task Force determined that immediate consideration for standardization across the regions was required.

B.   NPAC SMS Provisioning Process Flows

The NPAC SMS Provisioning Process Flows document describes the inter-service provider and NPAC SMS process flows. This series of nine (9) flows was also being addressed independently in each region. The Task Force determined that the flows also required immediate consideration for standardization.

5.2   The LNPA T&O Task Force reviewed the content of these regional documents and determined that they were essentially similar. These documents were each subsequently updated by the Task Force and are recommended as industry standards in Sections 7 through 9 of this report. The Task Force concluded there were significant advantages to the industry if standard FRS, IIS, and NPAC SMS Provisioning Process Flows were developed and endorsed by the industry. Following is a list of the most critical advantages:

A.   Industry standards reduce work activities required by the regional teams resulting in earlier completion of certain critical path activities such as functional requirements for the NPAC SMS. Completion of this and other activities are necessary for the NPAC SMS vendors, the Service Providers (SPs), and other associated product vendors, to implement systems, centers, and processes according to the FCC schedule.

B.   The work underway in the seven (7) regions was producing essentially equivalent FRS and IIS documents and provisioning flows resulting in duplication of effort

across the regions, and was therefore an ineffective use of the resources available for LNP deployment.

C.   Standard NPAC SMS requirements and operational flows facilitate the design and development of associated processes such as the Local Service Request (LSR) process where procedures are defined as a national standard for the industry by the Ordering and Billing Forum (OBF).

D.   The vendors that are currently developing or modifying LNP-related products such as Local SMS, Service Order Administration (SOA) interfaces, and network Service Control Points (SCP) are able to develop standard products rather than multiple versions based on regional differences, resulting in more timely and cost effective offers to the SPs.

E.   There are currently numerous nationwide SPs and mergers and market expansions will result in additional nationwide SPs in the future. It is advantageous to these companies to maintain standard system requirements and processes to gain maximum efficiency and effectiveness in all LNP functions. For example, a standard interface between the NPAC SMS and the SP systems allows for minimum expenditure of time and resources while at the same time producing higher quality customer service processes.

6.   ISSUES

6.1   Issues Introduction

6.1.1   During the initial meetings, the LNPA T&O Task Force identified certain contentious issues that, depending on the outcome, would significantly impact the standards contained in the requirements documents developed by the Task Force. Each of the five (5) issues described below was resolved by the Task Force and additional details and the resolution on each are contained in Appendix A.

6.2   LNP Provisioning Flows Issue

6.2.1   The issue concerned the amount of control the old and new SPs can exercise during the customer porting process in the NPAC as documented in the provisioning flows. Following failure by the Task Force to reach a consensus, the issue was escalated to the LNPA Selection Working Group on January 7, 1997, and presented to NANC on January 13. NANC directed the Task Force to continue working the issue and to report back to the NANC chairman on January 23.

6.3   Service Provider-to-Service Provider (SP-to-SP)Audit Issue

6.3.1   There was a disagreement regarding the use of SP-to-SP audits in the Number Portability Administration Center Service Management System (NPAC SMS). These audits are used when customers notify their SP of a repair problem, and the SP launches an audit to determine if there are discrepancies between NPAC SMS and Local SMS (LSMS) subscription data. This issue concerns minimizing the functions performed by the NPAC.

6.4   Mismatch of Provisioning Download and Network Upload Rate Issue

6.4.1   The NPAC SMS to LSMS interface transaction rate, as defined in the NANC FRS, is 25 telephone numbers (TNs) per second, sustained for five (5) minutes for each such interface. The SCP requirement states that the LSMS must support the download rate specified by the NPAC, and contains a goal for activating portability for subscribers within 15 minutes after the record for the ported subscriber is downloaded by the NPAC. This requirement is defined in the Generic Requirements for SCP Application and GTT Function for Number Portability, Issue 0.99, January 6, 1997. However, prior issues of this document consistently stated an SCP requirement of one (1) TN per second update rate; hence, the mismatch. The SCP generic requirements document also indicates that the NPAC SMS transaction rate places requirements for the processing of download records on the LSMS, SCP LNP application, and LNP GTT function, which must be addressed by the vendor and the SP.

6.5   Network Element Update Acknowledgment Issue

6.5.1   There is no acknowledgment of update from the network element (i.e., SCP) back to the NPAC SMS. This results in the NPAC SMS knowing only that the LSMS has received the ported TN information and does not tell it whether the SP's network was updated.

6.6   Interactive Voice Response Unit Issue

6.6.1   The LNPA T&O Task Force considered requiring an Interactive Voice Response (IVR) unit for NPAC development. The purpose of the IVR is to provide automated responses to calls issued by selected users (e.g., service providers' technicians, E911 personnel, etc.) who require the name of the Service Provider (SP) of a ported subscriber.

7.   RECOMMENDATION - NPAC SMS PROVISIONING PROCESS FLOWS

7.1   The LNPA T&O Task Force adopted the Illinois LNP provisioning process flows and associated descriptions as a frame of reference for refining the NPAC SMS flows. The flows document the following inter-service provider and NPAC SMS processes:

A. Provisioning - Figure 1
B. Provisioning without unconditional 10-digit trigger - Figure 2
C. Provisioning with unconditional 10-digit trigger - Figure 3
D. Conflict flow for service creation provisioning process - Figure 4
E. Cancellation flow for provisioning process - Figure 5
F. Cancellation conflict flow for provisioning process - Figure 6
G. Disconnect process for ported telephone numbers - Figure 7
H. Audit process - Figure 8
I. Code Opening Processes - Figure 9

7.2   The original Illinois LNP provisioning process flows were updated to reflect the changes resulting from the resolution of the LNP Provisioning Flow Issue described in Section 6.2 above. In addition, each flow was reviewed and modified to ensure industry wide endorsement. The Task Force also reviewed and modified the associated process flow descriptions until each member of the team was able to endorse the language selected. The LNPA T&O Task Force recommends endorsement by NANC of these flows and descriptions as industry standards for adoption by each region. A pictorial representation of these flows, now referred to as Inter-Service Provider LNP Operations Flows and the associated descriptions, are contained in Appendix B.

8.   RECOMMENDATION - NPAC SMS STANDARDS - FUNCTIONAL REQUIREMENTS SPECIFICATION (FRS)

8.1   The LNPA T&O Task Force adopted the Functional Requirements Specification (FRS) as a framework document. This document, which was originally developed by Lockheed Martin IMS Corporation, defined the functional requirements of NPAC SMS for use in the Illinois trial.

8.2   The NPAC SMS is a hardware and software platform that contains the database of information required to effect the porting of telephone numbers. In general, the NPAC SMS receives customer information from both the old and new SPs, validates the information received, and downloads the new routing information when an "activate" message is received indicating that the customer has been physically connected to the new SP's network. The NPAC SMS contains a record of all ported numbers and a history file of all transactions relating to the porting of a number. The NPAC SMS also provides audit functionality and the ability to transmit routing information to SPs to maintain synchronization of SP's network elements that support portability.

8.3   The Request for Proposal (RFP) in each of the remaining six (6) regions included, either as an attachment or by reference, a version of the Illinois FRS. Therefore, the vendor proposals received in each of the seven (7) regions were in response to substantially similar requirements.

8.4   The LNPA T&O Task Force updated the Illinois FRS, Version 1.4 to reflect agreed upon standards. This revised version was released as NANC FRS Version 1.0 on April 7, 1997. The current version of this document is referenced in Appendix C. The LNPA T&O Task Force recommends endorsement by NANC of the NANC FRS as an industry standard for use in developing and maintaining the NPAC SMS in each of the seven (7) regions.

8.5   This specification was developed primarily from a wireline number portability perspective. Unique wireless number portability requirements have not been fully considered in the development of this document. Therefore, modifications to this document may be required to support wireless number portability.

9.   RECOMMENDATION - NPAC SMS STANDARDS - INTEROPERABLE INTERFACE SPECIFICATION (IIS)

9.1   The LNPA T&O Task Force also adopted the Interoperable Interface Specification (IIS) as a framework document. This document, which was originally developed by Lockheed Martin IMS Corporation, is also being used in the Illinois trial.

9.2   The NPAC SMS IIS contains the information model for the NPAC SMS mechanized interfaces. These interfaces reflect the functionality defined in the FRS. Both Service Order Administration (SOA) and Local Service Management System (LSMS) interfaces to the NPAC SMS are described in this document. The interfaces, defined using Common Management Information Protocol (CMIP), are referred to as the SOA to NPAC SMS interface and the NPAC SMS to LSMS interface, respectively.

9.2.1   The SOA to NPAC SMS interface, which allows communication between an SP's operating support systems and the NPAC SMS, supports the creation and update of subscription information.

9.2.2   The NPAC SMS to LSMS interface is used for communications between an SP's LSMS and the NPAC SMS for support of LNP network element provisioning.

9.3   The Request for Proposal (RFP) in each of the remaining six (6) regions included, either as an attachment or by reference, a version of the Illinois IIS. Therefore, the vendor proposals received in each of the seven (7) regions were in response to substantially similar requirements.

9.4   The LNPA T&O Task Force updated the Illinois IIS, Version 1.4, to agreed upon standards. This revised version was released as NANC IIS, Version 1.0, on April 7, 1997 and is referenced in Appendix D. The LNPA T&O Task Force recommends endorsement by NANC of this revised IIS as an industry standard for use in developing and maintaining the NPAC SMS interfaces in each of the seven (7) regions.

9.5   This specification was developed primarily from a wireline number portability perspective. Unique wireless number portability requirements have not been fully considered in the development of this document. Therefore, modifications to this document may be required to support wireless number portability.

10. RECOMMENDATION - POLICY FOR THE PORTING OF RESERVED AND UNASSIGNED NUMBERS AND COMPLIANCE PROCESS

    10.1   Industry Agreement

        10.1.1   The LNPA T&O Task Force adopted a compromise on the LNP Provisioning Flows (see Section 6.2) that included endorsing a policy that carriers will not port unassigned numbers unless and until there is an explicit authorization for such porting from a regulator with appropriate jurisdiction. The LNPA T&O Task Force further adopts the Porting of Reserved and Unassigned Number policy developed and documented in Section 7.7 of the "Architecture & Administrative Plan for Local Number Portability."

    10.2   Non-compliance Notification Process

        10.2.1   The LNPA T&O Task Force will develop and put in place a process to inform all current and future SPs that participate in the NPAC process within each of the regions of the Porting of Reserved and Unassigned Numbers policy and of the industry expectation regarding compliance.

        10.2.2   The LNPA T&O Task Force defined requirements to develop reports in the NPAC SMS to identify instances of SP non-compliance with the Porting of Reserved and Unassigned Numbers policy. Such reports are forwarded on a periodic basis to the SPs involved.

        10.2.3   Should an SP feel disadvantaged by instances of non-compliance of the Porting of Reserved and Unassigned Number policy by another SP, several courses of action are available to the aggrieved SP. First, it is recommended that the SP contact the offending SP to resolve the issue through normal discussions.

        10.2.4   Should the SP remain unsatisfied following SP to SP discussion, that SP may escalate the issue to one or more of the following as appropriate, or other bodies as deemed appropriate by the SP:

- To the regional LLC via the dispute resolution process
- To NANC via the procedures for Resolution of Numbering Disputes
- To the state Public Utilities Commission

11. RECOMMENDATION - CHANGE MANAGEMENT AND COMPLIANCE PROCESS

11.1   Change Management Required

11.1.1   The LNPA T&O Task Force members recognize that, having developed and recommended technical and operational standards for the industry to follow for the implementation of NPAC SMS, ongoing changes to the requirements must be managed. The members agree and recommend that an open industry group, such as this Task Force, or other similar group designated by the NANC, should be charged to continue to recommend ongoing technical standards for the NPAC as changes are identified and introduced.

11.2   Change Management Process

11.2.1   The LNPA T&O Task Force members further recommend that a change management process be developed, by the designated oversight group, which will provide an open and neutral facility for the submission and consideration of changes requested to the NANC FRS and/or NANC IIS requirements specifications. The procedures should include the definition of standard change request documents, vehicles/facilities for the submission and distribution of requests, and timetables for the process of open consideration and prioritization of such requests.

11.2.2   The LNPA T&O Task Force adopted an interim process to ensure continued consistency in the submission and consideration of changes to the NANC FRS and/or NANC IIS requirements specifications until NANC finalizes a recommendation on a permenant process. The interim process includes all the components of the change management process described in Section 11.2.1, however, administration of the process is performed by one of the NPAC vendors. While the industry is responsible for all decisions made concerning changes, it is important to move the administrative role to a neutral organization managed by the industry.

11.3   Compliance Process

11.3.1   The LNPA T&O Task Force members also agree that compliance with the published NANC FRS and NANC IIS standards is expected, and that instances of non-compliance may be reported to the NANC for appropriate action.

APPENDIX A

ISSUES AND RESOLUTIONS

ISSUES AND RESOLUTIONS

I.   **ISSUE STATEMENT**

LNP Provisioning Flows Issue

A.   The issue concerned the amount of control the old and new SPs can exercise
        during the customer porting process in the NPAC as documented in the
        provisioning flows. Following failure by the Task Force to reach a consensus,
        the issue was escalated to the LNPA Selection Working Group on January 7,
        1997, and presented to NANC on January 13. NANC directed the Task Force to
        continue working the issue and to report back to the NANC chairman on January
        23.

ISSUE RESOLUTION

LNP Provisioning Flows Issue

A.   After several attempts to reach compromise, the ILECs made a proposal that was
        adopted with minor modifications on January 20, 1997. Following are
        descriptions of the three (3) part compromise proposed by the ILEC members of
        the LNPA T&O Task Force followed by the compromise adopted by the full
        Task Force:

        1.   ILEC Proposal

                a.   After the Firm Order Commitment (FOC) is received by the new
                        Service Provider (SP), both old and new SPs send subscription
                        records to the NPAC which must include the FOC due date. The
                        FOC due date will be no earlier than three (3) business days after
                        the FOC receipt date. No NPAC subscription version may activate
                        before the FOC due date unless a new FOC is negotiated with the
                        old SP.

                b.   The NPAC SMS processing timers will include business hours
                        only. Local business hours are to be defined as 12 daytime hours
                        per day on Mondays through Fridays, except holidays. (Time zone
                        issue must be resolved and will be addressed separately.)

                c.   An old SP may only cause a subscription version to be set to
                        conflict state one (1) time from the pending state, and only up to
                        noon on the business day before the subscription due date. Within
                        six (6) business hours of the conflict initiation, "conflict off" may
                        be set only by the old SP alone or by the concurrence of both SPs.
                        After six (6) business hours, "conflict off" may be set by the new

SP alone, **except** when the LSR/FOC process has not been followed, and/or the subscription version submitted to the NPAC SMS includes a vacant, non-working telephone number, then the old SP alone controls the conflict/cancellation process.

    2.   <u>Accepted Compromise</u>

        a.   The ILEC proposal was accepted. This represents a compromise by the CLECs as they maintain this adds an additional day to the provisioning process since the three (3) business days are counted from the FOC due date rather than the LSR receipt date.

        b.   The ILEC proposal was accepted.

        c.   An old SP may only cause a subscription version to be set to conflict state one (1) time from the pending state, and only up to noon on the business day before the subscription due date. Within six (6) business hours of the conflict initiation, "conflict off" may be set only by the old SP alone or by the concurrence of both SPs. After six (6) business hours "conflict off" may be set by either the old or new SP. This represents a compromise by the ILECs as the ILEC proposal included an exception to the conflict process where the old SP controlled removal from conflict in certain cases.

B.   Points a and c above are linked, therefore, withdrawal or modification of either point by industry factions nullifies the compromise agreement. In addition, adoption of the compromise is contingent on satisfying the following conditions:

    1.   The Task Force will recommend a policy to the Working Group for NANC and FCC concurrence that carriers will not port unassigned numbers unless and until there is an explicit authorization for such porting from a regulator with appropriate jurisdiction.

    2.   A tracking vehicle in the NPAC will be developed to measure the reasons transactions are placed into conflict. This measurement becomes the vehicle to identify specific SPs or processes needing improvement and subsequently to develop process improvement plans.

    3.   The LNPA T&O Task Force will recommend to the Working Group for NANC and FCC concurrence an expedited process to resolve instances of SP non-compliance with the assumption that all SPs will follow the Local Service Request (LSR) and Firm Order Commitment (FOC) processes.

C.   The industry vote in support of the compromise provisioning flows was unanimous in both the Task Force and the Working Group. However, while

Pacific Bell voted yes, they do not agree with a process that does not allow the prevention of porting of unassigned telephone numbers or telephone numbers that do not have an associated LSR and FOC. Pacific Bell recognizes the need to move forward with these process flows with the condition that NANC recommend that porting of unassigned numbers is prohibited until a commission approved process for number pooling is in place. Pacific Bell reserves the right to appeal to the commission on this issue.

II.   ISSUE STATEMENT

Service Provider-to-Service Provider (SP-to-SP)Audits Issue

A.   There was disagreement regarding the use of SP-to-SP audits in the NPAC SMS. These audits are used when a customer notifies their SP of a repair problem and the SP launches an audit to determine if there are discrepancies between NPAC SMS and Local SMS (LSMS) subscription data. This issue concerns minimizing the functions performed by the NPAC. A proposal, which did not reach consensus, was made providing for screening of audits, allowing an SP to block audits from any other SP.

ISSUE RESOLUTION

Service Provider-to-Service Provider Audits Issue

A.   On January 30, 1997, the LNPA T&O Task Force agreed to allow the SP-to-SP audit function without screening in the NPAC SMS, but to monitor the use of audits to identify the effectiveness and efficiency of the process in resolving repair calls.

III.   ISSUE STATEMENT

Mismatch of Provisioning Download and Network Upload Rate Issue

A.   The NPAC SMS to LSMS interface transaction rate, as defined in the NANC FRS, is 25 telephone numbers (TNs) per second, sustained for five (5) minutes for each such interface. The SCP requirement states that the LSMS must support the download rate specified by the NPAC, and contains a goal for activating portability for subscribers within 15 minutes after the record for the ported subscriber is downloaded by the NPAC. This requirement is defined in the Generic Requirements for SCP Application and GTT Function for Number Portability, Issue 0.99, January 6, 1997. However, prior issues of this document have consistently stated an SCP requirement of one (1) TN per second update rate; hence, the mismatch. The SCP generic requirements document also indicates that the NPAC SMS transaction rate places requirements for the

processing of download records on the LSMS, SCP LNP application, and LNP GTT function, which must be addressed by the vendor and the SP.

ISSUE RESOLUTION

Mismatch of Provisioning Download and Network Upload Rate Issue

A. The Task Force concluded that the NPAC SMS requirement of 25 TNs per second will remain unchanged. The LNPA T&O Task Force recommends gaining experience by monitoring the downloads from the NPAC SMS and the ability of the network elements to activate subscriptions within the target interval of 15 minutes. This issue will be revisited when this data is available.

IV. **ISSUE STATEMENT**

Network Element Update Acknowledgment Issue

A. There is no acknowledgment of update from the network element (i.e., SCP) back to the NPAC SMS. This results in the NPAC SMS knowing only that the LSMS has received the ported TN information and does not tell it whether the SP's network was updated.

ISSUE RESOLUTION

Network Element Update Acknowledgment Issue

A. After many discussions and considerable research on this issue, it was decided that due to an unacceptably high level of complexity to implement changes to network provisioning systems, the Task Force would not pursue network element acknowledgment at this time.

V. **ISSUE STATEMENT**

Interactive Voice Response Unit Issue

A. The LNPA T&O Task Force considered requiring an Interactive Voice Response (IVR) unit for NPAC development. The purpose of the IVR is to provide automated responses to calls issued by selected users (e.g., service providers' technicians, E911 personnel, etc.) who require the name of the Service Provider (SP) of a ported subscriber.

1. The IVR concept originated from help desk calls to the 800 SMS. With experience, it was determined that a high percentage of those calls (approximately 80%) were inquiries concerning the SP associated with a certain toll free number. When an IVR was installed to handle such

calls in an automated fashion, the 800 SMS help desk's efficiency was increased substantially.

2.   Due to the similarity between the 800 SMS and the NPAC SMS, the IVR concept was introduced to provide a mechanism for SPs and emergency personnel to determine the SP of a ported subscriber (provider name and telephone number of a business/repair office), based on the ported telephone number. The users of the IVR are issued a password for validation prior to use of the IVR.

ISSUE RESOLUTION

Interactive Voice Response Unit Issue

A.   There is no consensus that an IVR is necessary for NPAC development. The recommendation is to gain experience with NPAC SMSs in production and determine whether an IVR would alleviate help desk inquiries. Furthermore, there are other means to retrieve the same information in the current design, namely:

1.   The SP information associated with a ported customer is downloaded to each Local SMS after activation at the NPAC SMS. SP contact information is available through the NPAC SMS to the Local SMS interface. Each SP can rely on its Local SMS to retrieve relevant porting information, including contact information for the service provider of a ported customer.

B.   The LNPA T&O Task Force recommends that it gain practical experience with the NPAC SMSs, measure type and volume of help desk calls, and revisit the IVR issue when this data is available.

APPENDIX B

INTER-SERVICE PROVIDER LNP OPERATIONS FLOWS

APPENDIX C

NANC FUNCTIONAL REQUIREMENTS SPECIFICATION

The NANC Functional Requirements Specification (NANC FRS) document is available at the following website:

http://www.npac.com

APPENDIX D

NANC INTEROPERABLE INTERFACE SPECIFICATION

The NANC Interoperable Interface Specification (NANC IIS) document is available at the following website:

http://www.npac.com

APPENDIX E

GLOSSARY

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CLEC	Competitive Local Exchange Carrier
CMIP	Common Management Information Protocol
FCC	Federal Communications Commission
FOC	Firm Order Commitment
FRS	Functional Requirements Specification
IIS	Interoperable Interface Specification
ILEC	Incumbent Local Exchange Carrier
IVR	Interactive Voice Response
LEC	Local Exchange Carrier
LNP	Local Number Portability
LNPA	Local Number Portability Administrator(s)
LSMS	Local Service Management System
LSP	Local Service Provider
LSR	Local Service Request
NANC	North American Numbering Council
NANPA	North American Numbering Plan Administrator
NPAC	Number Portability Administration Center
NSP	New Service Provider
OSP	Old Service Provider
RFP	Request for Proposal
SCP	Service Control Point
SMS	Service Management System
SOA	Service Order Administration
SP	Service Provider
SPOS	Service Provisioning Operating Systems
TN	Telephone Number